PERCENTAGE PROFIT LOSS

L.VALLIAPPAN
9911054
9941355

1) The profit obtained by selling an article for RS.56 is the same as the loss obtained by selling it for RS.42. what is the cost price of the article?

a) RS.40 b) RS.50 c) RS.49 d) None of these

SP = 56, CP = x in profit

SP = 42 CP = x in Loss

PROFIT = SP - CP

PROFIT = 56 - x RS

LOSS = CP - SP

LOSS = x - 42

$56 - x = x - 42$

$56 + 42 = 2x$

$98 = 2x$

$x = 49$

2) The C.P of 21 articles is equal to S.P of 18 articles. Find the gain (or) loss percent.

a) 10%. b) $18\frac{1}{3}$ %. c) $16\frac{2}{3}$ %. d) 20%.

Let us assome cp of each article is 1RS

C.P of 21 article = 21RS

C.P of 18 article = 18RS

S.P of 18 articles = C.P of 21 articles

profit of 18 articles = SP - CP = 21 - 18 = 3RS.

Gain percent = $\frac{3}{18} \times 100 = \frac{50}{3} = 16\frac{2}{3}$

$3\overline{)50}\ (16$, 3, 20, 18, 2

$= 16\frac{2}{3}$

3) An article is sold at a certain price. By selling it at $\frac{2}{3}$ of that price one losses 10%. Find the gain percent at original price

a) 15%. b) 35%. c) 25%. d) 50%.

Let us Assume C.P = 100RS

LOSS = 10% = $\frac{10}{100} \times 100 = 10$RS.

S.P = 100 - 10 = 90RS.

S.P of $\frac{2}{3}$ of original price = $90 \times \frac{3}{2} = 135$RS.

PROFIT = 135 - 100 = 35RS

Gain percent = $\frac{35}{100} \times 100 = 35\%$.

L.VALLIAPPAN
3911054
19311355

4.) A man brought a horse and a carriage for Rs. 3000. He sold the horse at a gain of 20% and a carriage at a loss of 10%, thereby gaining 2% on whole. Find cost of horse.

a.) 2200 b.) 1800 c.) 1200 d.) 1000

TOTAL = 3000

↑2% → $3000 \times \frac{2}{100}$ = 60 RS → 3000 + 60 = 3060 RS.

HORSE =

20% ↑ = $\frac{120}{100} x$

Carriage =

10% ↓ = $\frac{90}{100} x$

$\frac{20}{100} x - \frac{10}{100} (3000 - x) = 60$

$0.2x - 0.1(3000 - x) = 60$

$0.2x - 300 + 0.1x = 60$

$2x - 3000 + 1x = 600$

$3x = 3600$

$x = 1200$

5.) The price of a jewel, passing through three hands, rises on the whole by 65%. If the first and second sellers earned 20% and 25% profit respectively, find the percentage of profit earned by third seller

1 → 2 → 3 → 4 = 65% (or) $\frac{165}{100}$

20% 25% x%

1 → 2: $\frac{120}{100}$

2 → 3: $6 \times \frac{125}{100}$ = 150

3 → 4

ASSUME Initial Price = 100

$\frac{150 + x}{100} = \frac{165}{100}$

$x = 15$ Rs

x in percentage = $\frac{15}{150} \times 100 = 10\%$

a.) 10%
b.) 22%
c.) 18%
d.) 12%

(or)

Method 2:

$(100 + x)\% - 125\% \text{ of } 120\% \text{ of } P = 165\% \text{ of } P$

$\frac{100 + x}{100} \times \frac{125}{100} \times \frac{120}{100} \times P = \frac{165}{100} \times P$

L.VALLIAPPAN
39111054
19511355

~~100+x × 125 × 120 % = 165 %~~

$100 + x = \frac{165 \times 100 \times 100}{125 \times 120}$

$100 + x = 110$

$x = 10\%$.

6.) At what percentage above the C.P must an article be marked. So as to gain 33%. after allowing a discount of 5%.

a) 38% b) 140% c) 143% d) 148%.

Cost price = 100

Marked price = x

C.P + 33% of C.P

$= \frac{133}{100}$ %.

Customer has a discount of 5%.

$x - 5\%$. $\quad x = 133$

95%. $\quad x = 133$

$\frac{95}{100} \quad x = 133$.

$x = \frac{133 \times 20}{95}$

$x = 140$

percentage above the C.P

$= \frac{\text{Marked price} - \text{C.P}}{\text{C.P}} \times 100$

$= \frac{140 - 100}{100} \times 100$

$= \frac{40}{100} \times 100$

$= 40\%$.

7.) A Grocer purchased 80 kg of rice at RS 13.50 per kg. And mixed with 120 kg rice at RS. 16 per kg. At what rate per kg should he shell the mixture to gain 16%.

a) RS. 19 b) RS. 20.5 c) RS. 17.4 d) RS. 21.6.

80 × 13.50 = RS. 1080

120 × 16 = RS. 1920

Total cost = 1920 + 1080 = 3000 RS

Total weight = 200 kg.

gain = 16%. Profit = $\frac{116}{100} \times 3000 = 3480$.

L.VALLIAPPAN
39111054
19511355

S.P per kg = $\frac{3480}{200}$ = 17.40 RS.

8) on An article, the manufacturer gains 10%, the whole sale dealer, 15% and retailer 25% - 3 Retail price is 1265. what is cost of production

125% of 115% of 110% of x = 1265

a) 1000
b) 800
c) 1100
d) 900

$\frac{125}{100} \times \frac{115}{100} \times \frac{110}{100} \times x = 1265$

$x = \frac{1265 \times 4 \times 20 \times 100}{125 \times 115 \times 11}$

$x = \frac{1265 \times 16 \times 10}{23 \times 11}$

$x = \frac{202400}{253}$

x = 800 RS

9.) A dealer professing to sell his goods at cost price, uses 900gm weight for 1 kg. His gain percent is

a) 13% b) 12 1/3% c) 11 1/9% d) 10%.

1g = 1RS Let us assume

1000g = 1000RS } C.P
900g = 900RS

S.P of 900g = 1000 RS.

profit = SP - C.P
= 1000 - 900
profit = 100RS.

$\frac{100}{900} \times 100 =$ 11.11%. (or) 11 1/9

9 | 100
9 11
10
9
1

10.) A trader has 50kg of rice, a part of which he sells at 14% profit and rest at 6% loss. on a whole his loss is 4%. what is the quantity sold at 14% profit and that a 6% loss.

a) 5 and 45 kg b) 10 and 40 kg c) 15 and 35 kg
d) 20 and 30 kg.

14% — 6%
\ /
4%
/ \
2% 18%

2 : 18 ⇒ 1 : 9

$\frac{50 \times 1}{10} = 5$ kg → profit

$\frac{50 \times 9}{10} = 45$ kg → loss

11.) The cost price of two types of tea are Rs.180 per kg. and Rs.200 per kg. Respectively. on mixing them in ratio 5:3, the mixture is sold at Rs.210 per kg. In whole transaction, the gain percent is

a.) 10%. b) 11% c) 12%. d.) 13%.

L.VALLIAPPAN
3911054
19511355

$5 \times 180 = 900 \Rightarrow 1^{st}$ produce

$3 \times 200 = 600 \Rightarrow 2^{nd}$ produce

Total cost = 900 + 600 = 1500 RS. $\Rightarrow$ C.P.

Total weight = 5 + 3 = 8 kg

S.P = $8 \times 210 = 1680$ RS.

Profit = S.P − C.P

Profit = 1680 − 1500

Profit = 180 RS.

Profit % = $\frac{180}{1500} \times 100 = 12\%$.

12.) A Trader marks his product 40% above its cost. He sells the product on Credit and allows 10% trade discount. Inorder to ensure Prompt payment, He further gives 10% discount on the reduced price. It make a profit of RS.67 from the transaction, then the cost price of product is

a) RS. 300 b.) RS 400 c.) RS. 325 d.) RS. 500

Let us say C.P = x

Marked price = 40% ↑ = $\frac{140x}{100}$ RS. = 0.4x RS + 1RS

= 1.4x RS.

S.P = $1.4x - \left(\frac{10}{100}\right) \times 1.4x = 1.4x - 0.14x = 1.26x$ RS.

further he gives 10% discount

$\frac{10}{100} \times 1.26x = 0.126x$ RS.

Final ammount = $1.26x - 0.126x = 1.134x$

Profit = $1.134x - 1x$

Profit = $0.134x$

$67 = 0.134x$

$x = 500$